

INCREASING GENERALIZED SOCIAL INTERACTIONS IN PSYCHOTIC AND MENTALLY RETARDED RESIDENTS THROUGH PEER-MEDIATED THERAPY

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This study investigated whether withdrawn adults living in a residential center for psychotic and mentally handicapped persons could serve as peer therapists to increase the social interaction of other withdrawn residents. Two pairs of residents served as participants. Treatments were introduced and evaluated within a multiple baseline with reversal design. After baseline, the peer therapist was instructed to increase the social interactions of a target peer through engagement in social interactions. The results demonstrated that the peer therapist increased the social interactions of target peers. However, these increases did not generalize to other residents until the introduction of a multiple peer therapist condition. The percentage of time the peer therapists interacted with other nontarget residents also increased throughout the study. These results were maintained during a 4-month follow-up condition.

DESCRIPTORS: peers, peer therapy, social interaction, generalization, mentally retarded

Increasing the frequency of appropriate social interaction in mentally handicapped and schizophrenic individuals has been the focus of much research because adequate social functioning is crucial to full community integration. One method of increasing social interactions in developmentally handicapped persons is to employ peer therapists (Lancioni, 1982; McEvoy et al., 1988; Odom & Strain, 1986). In each of these studies, nonhandicapped children served as peer therapists for developmentally handicapped children. Although it is not difficult to gain access to nonhandicapped peers in an integrated school setting, one does not always have ready access to nonhandicapped peers in group homes or adult residential centers. Therefore, the application of this technique to mentally handicapped adults living in group homes or adult residential centers might require the use of a peer therapist with similar disabilities. A major purpose of this study was to determine whether a resident of an adult residential center could serve as an effective peer therapist for another resident.

Although it has been suggested that serving as a peer therapist might have beneficial effects for the peer (Stainback & Stainback, 1981), few data exist to support this assertion. Thus, a second purpose of this study was to determine whether assigning 1 socially withdrawn resident as a peer therapist to increase the social interaction of another withdrawn resident would produce an improvement in the social interactions of both persons.

METHOD

Subjects and Setting

The subjects were 5 adults living in a residential center. Andy, age 59, was diagnosed as having a withdrawn personality; Tom, age 35, was diagnosed as being mildly mentally retarded; Jack, age 55, and Arthur, age 58, were both diagnosed as chronic paranoid schizophrenic; and Simon, age 30, was diagnosed as mildly mentally retarded. All subjects (with the exception of Simon, who served as one of the peer therapists) were selected for participation based on staff observations indicating they spent most of their time alone.

Target Behavior

Social interactions were defined as verbal interactions or playing board or card games together. Verbal interactions were scored when the partici-

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pant was involved in a conversation with one or more verbal residents. The participant and at least one other resident had to make full statements (a statement was any utterance that contained a subject and a predicate) to each other on any subject or topic. Participants were scored as playing board or card games if they were both engaged in a game of checkers or two or more were involved in a game of cards. Players had to manipulate the game materials or cards in an appropriate manner to be scored as engaged in these activities. Aberrant statements, such as meaningless sentences or sentences not related in any way to the conversation, were not scored. An interaction between two or more residents was not scored if a staff member participated in the interaction.

Measures

A 30-min momentary time sampling procedure was employed by staff throughout each working day. At the beginning of each observation interval, a staff member recorded whether a specified client was interacting with an assigned partner, was interacting with others, or was engaged in an isolated activity.

Interobserver agreement was calculated when a staff member and the program director (who was also the first author) independently scored each subject's behavior. Two independent observers simultaneously recorded each subject's behavior for at least 8 of the 13 daily checks conducted during each session. Interobserver agreement on the occurrence and nonoccurrence of social interactions was calculated separately by dividing the number of agreements by the number of agreements plus disagreements first for the occurrence of the behavior and then for the nonoccurrence of the behavior. Agreement on the occurrence of social interactions averaged 90% (range, 80% to 100%), and agreement on the nonoccurrence of social interactions averaged 99% (range, 85% to 100%).

Procedure

For each session, one of five staff members scored the behavior of each of the 4 target subjects. The staff member made a sweep of the center and sur-

rounding area with a clipboard and recorded social interactions. Staff members did not prompt or otherwise encourage social interactions in any way at these times. Throughout the course of the experiment, no programs other than the experimental interventions were in effect to promote social interactions.

Experimental Design

A multiple baseline across subjects with reversal design was used. Following the collection of baseline data on two pairs of socially withdrawn subjects, the treatment procedure was introduced for one pair while the second pair remained in the baseline condition. Next, the procedure was modified to promote generalization of social interactions with a wider range of persons for the first pair of subjects while the original treatment was removed and reintroduced for the second pair of subjects. Next, the procedure was modified to promote generalization of social interactions with a wider range of persons for the second pair of subjects. Finally, the treatment was removed for both pairs, and follow-up data were collected to determine whether the effects persisted over time.

Baseline. During the first baseline condition, data were collected on the social interactions of both pairs of subjects but no treatment procedures were in effect. During subsequent baseline conditions, peer therapists were instructed to discontinue peer-therapy procedures to determine how well their partners could do on their own.

Peer therapy. Jack was assigned to be Arthur's therapist, and Tom was assigned to be Andy's therapist. At the start of this condition, it was explained to the peer therapist that his partner had difficulty making friends and socializing and he could help him to overcome this problem. It was further suggested that he could help by playing checkers or cards with his partner, going for walks with his partner, or just spending time talking. On the first day, Arthur and Andy were told that Jack and Tom, respectively, were also lonely and could use a friend. Jack was further instructed that he would be rewarded points for his interactions with Arthur that could be accumulated towards the pur-

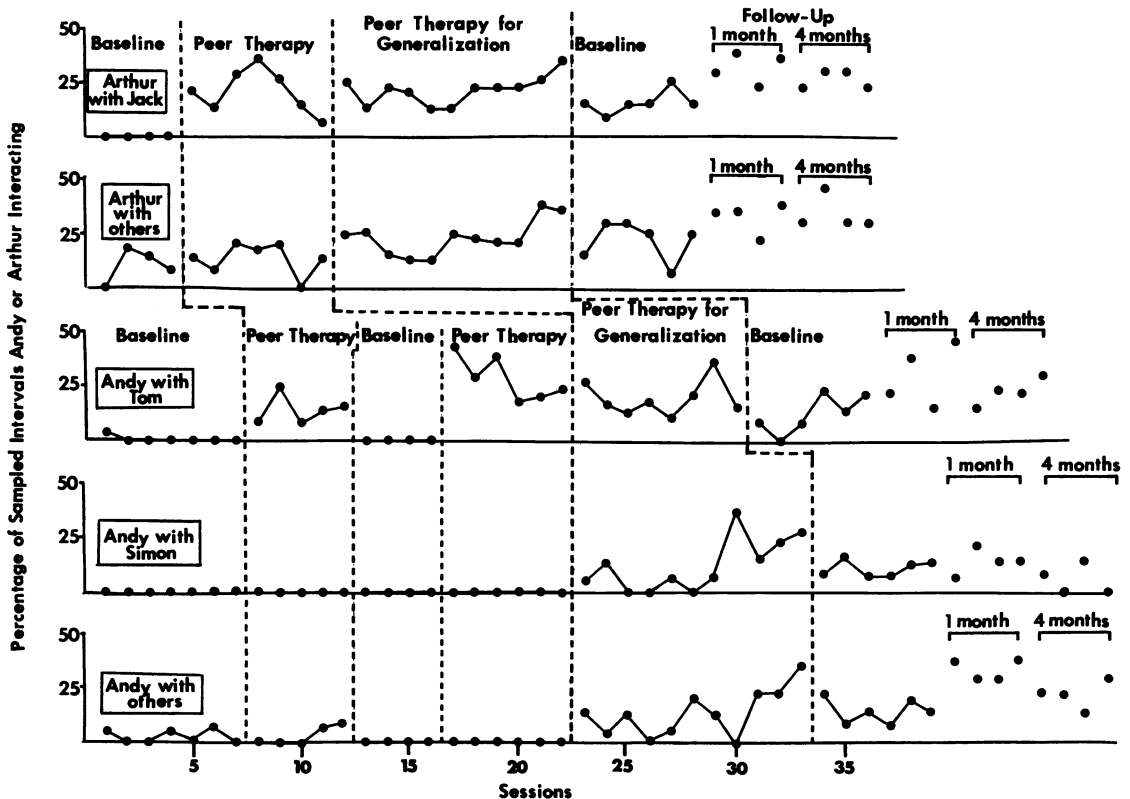


Figure 1. Mean percentage of sampled intervals in which Arthur and Andy interacted with peer therapists and others during daily sessions in each condition and during the 1- and 4-month follow-up.

chase of candy, whereas Tom was told that he would be awarded points for his social interactions with Andy that could be accumulated towards long-distance phone calls. Each therapist received 1 point whenever he was observed interacting with his partner. Peer therapists were also praised at the end of each day when they reported their activities for the day to the program director.

Peer therapy for generalization. During this condition, two different methods were used to promote interactions with individuals other than the peer therapists. Jack was told that he would now be rewarded for engaging in activities with Arthur that involved other residents, whereas a second peer therapist, Simon, was introduced to help promote generalization of social interactions to other residents for Andy. Simon was asked to assist Tom in helping Andy make friends and socialize with others. Simon did not receive points for helping, but

Tom was told that he would receive points whenever he or Simon were interacting with Andy. However, Simon received praise at the end of each day when he reported on his activities with Andy.

Follow-up data. Follow-up data were collected for four consecutive sessions beginning 1 month and 4 months after the termination of the study. During the 1-month follow-up, praise and feedback were provided to the peer therapists intermittently, several times a week, but no other reinforcers were in effect. During the 4-month follow-up, none of the treatment procedures were in effect.

RESULTS

The percentage of time Arthur and Andy interacted with their peer therapists and others is presented in Figure 1. The results indicated that Arthur did not interact at all with his peer therapist during

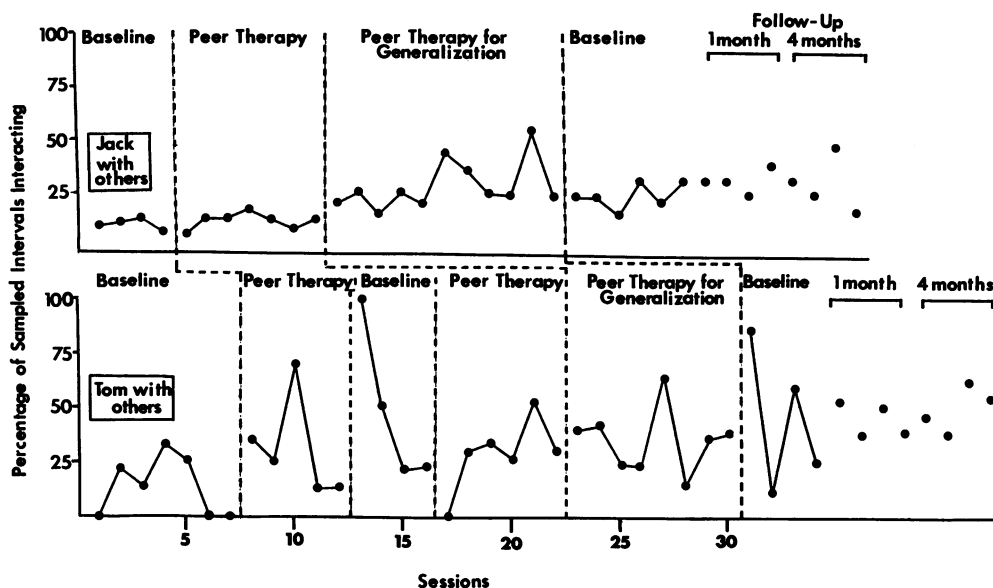


Figure 2. The percentage of sampled intervals in which Tom and Jack (peer therapists) interacted with others during daily sessions in each condition and during the 1- and 4-month follow-up.

the first baseline condition, and Andy interacted with one of his peer therapists only on the first day of baseline. Furthermore, Arthur was observed to be interacting with others during only 10% of the checks, and Andy was observed interacting with others during approximately 3% of the checks. The introduction of the peer-therapy condition resulted in a large increase in the percentage of time both men spent interacting with their peer therapists, but little change occurred in the percentage of time spent interacting with others. Arthur showed a decline in the percentage of time he interacted with his peer during the last three sessions of this condition. The removal of peer therapy for Andy resulted in a return to the original baseline level of interacting. The reintroduction of the condition led to a further increase in interactions with Tom and no change in interactions with others.

The introduction of the generalization condition increased Arthur's and Andy's interaction with others. These increases were maintained during the final return to baseline and the follow-up condition.

The percentage of time Jack and Tom spent interacting with others is presented in Figure 2. During baseline, Jack and Tom interacted with

others 9% and 13% of the time, respectively. The introduction of peer therapy produced little change in the percentage of time Jack spent interacting with others but produced an increase in the percentage of time Tom spent interacting with others that was maintained. The introduction of the generalization condition led to an increase in the percentage of time Jack was observed interacting with others, whereas the percentage of time Tom spent interacting with others remained about the same. These levels were maintained during the final baseline and follow-up phases.

DISCUSSION

The results indicated that socially withdrawn psychotic and mentally retarded persons can serve as effective peer therapists for other socially withdrawn persons. However, increased levels of social interactions with peer therapists did not generalize to other residents until procedures were introduced to promote interaction with more than 1 peer therapist. In Andy's case, the percentage of intervals of interaction with others increased only when 2

peer therapists were assigned to interact with him. In Arthur's case, peer interactions with others increased only when Jack received reinforcement for interacting with Arthur with at least one other person present. These data confirm Stokes, Baer, and Jackson's (1974) findings that generalization of social behavior does not always occur to other persons unless multiple therapists are used.

Three types of generalization were obtained in this study. First, the treatment produced generalization of the target subject's interactions with persons other than the peer therapist. Second, the peer therapists showed generalized increases in social interactions with persons other than the target peer. Third, the changes in behavior were maintained following removal of the treatment conditions.

One approach to analyzing these results is based on the work of Ayllon and Azrin (1968), who prompted mental patients to sample reinforcers they were not purchasing with their tokens. They found that reinforcer sampling increased the value of these reinforcers. Part of the effectiveness of the reinforcer-sampling procedure may have resulted from familiarizing the subjects with the reinforcers. Similarly, in the present study, the maintenance of increased social interactions after treatment was discontinued may have resulted from the residents' sampling potential social reinforcers with which they had previously not come in contact. The increased social interactions, in turn, may have put the clients in contact with other natural contingencies of reinforcement in the residential center that then main-

tained ongoing behavior (Kohler & Greenwood, 1986).

REFERENCES

- Ayllon, T., & Azrin, N. H. (1968). Reinforcer sampling: A technique for increasing the behavior of mental patients. *Journal of Applied Behavior Analysis*, *1*, 13-20.
- Kohler, F. W., & Greenwood, C. R. (1986). Toward a technology of generalization: The identification of natural contingencies of reinforcement. *The Behavior Analyst*, *9*, 19-26.
- Lancioni, G. E. (1982). Normal children as tutors to teach social responses to withdrawn mentally retarded schoolmates: Training, maintenance, and generalization. *Journal of Applied Behavior Analysis*, *15*, 17-40.
- McEvoy, M. A., Nordquist, V. M., Twardosz, S., Heckaman, K. A., Wehby, J. H., & Denny, R. K. (1988). Promoting autistic children's peer interactions in an integrated early childhood setting using affection activities. *Journal of Applied Behavior Analysis*, *21*, 193-200.
- Odom, S. L., & Strain, P. S. (1986). A comparison of peer-initiation and teacher-antecedent interventions for promoting reciprocal social interactions of autistic preschoolers. *Journal of Applied Behavior Analysis*, *19*, 59-71.
- Stainback, W., & Stainback, S. (1981). A review of research on interactions between severely handicapped and non-handicapped students. *Journal of the Association for the Severely Handicapped*, *6*, 323-329.
- Stokes, T. F., Baer, D. M., & Jackson, R. L. (1974). Programming the generalization of a greeting response in four retarded children. *Journal of Applied Behavior Analysis*, *7*, 599-610.

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